OIPE JC48
AUG 17 2005
PATENT & TRADEMARK OFFICE

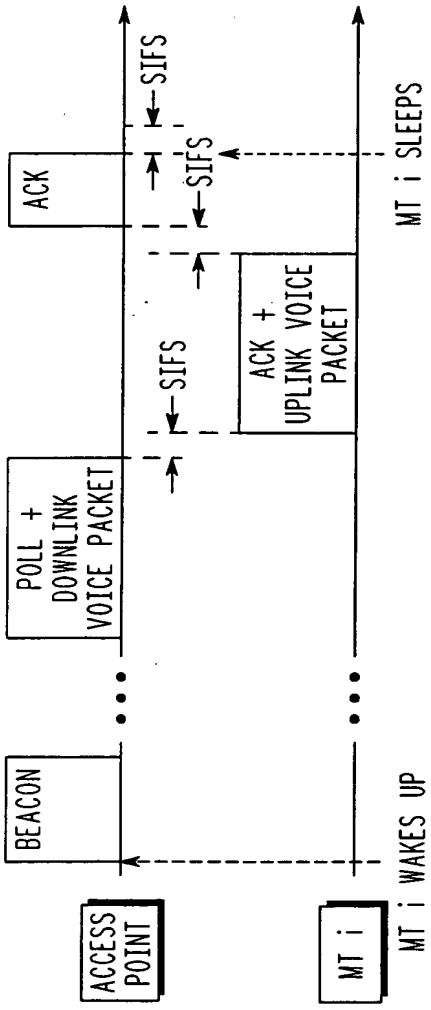

FIG. 1
—PRIOR ART—

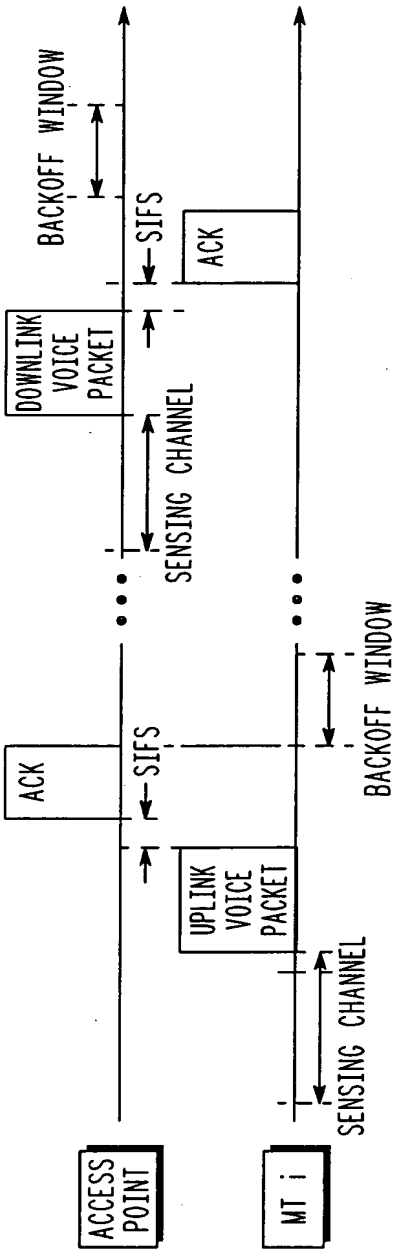

FIG. 2
—PRIOR ART—

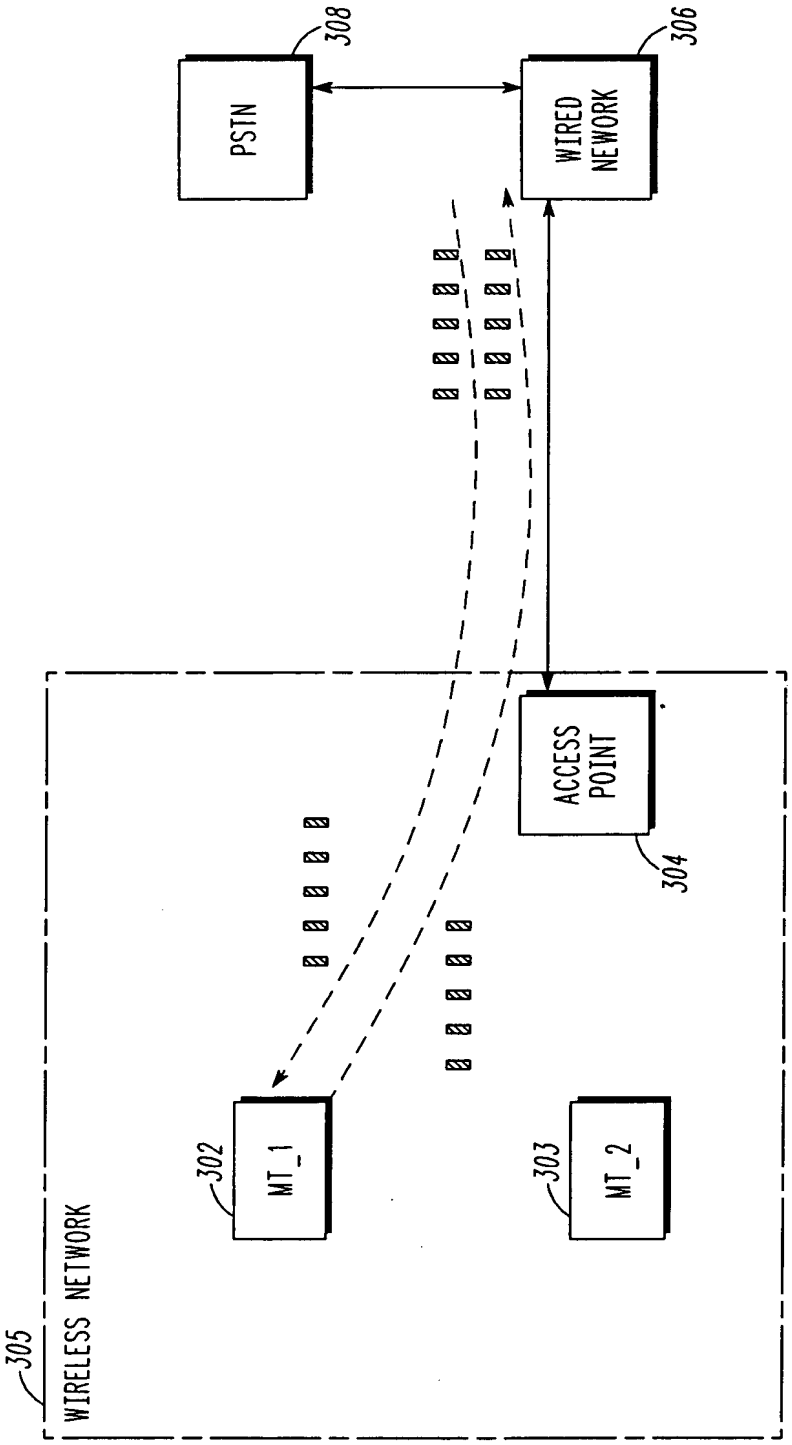
PSTN
308
WIRED NEWORK
306
ACCESS POINT
304
MT_1
302
MT_2
303
WIRELESS NETWORK
305

FIG. 3

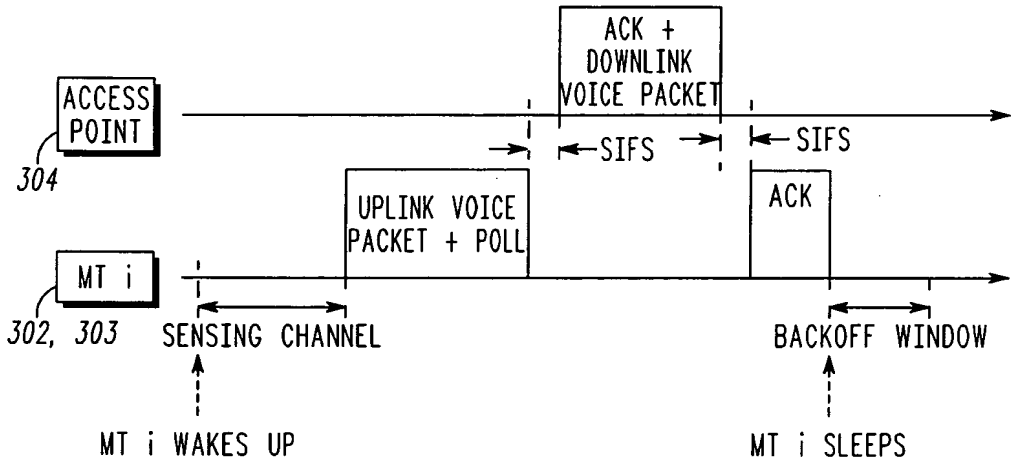
ACK +
DOWNLINK
VOICE PACKET
ACCESS
POINT
304
SIFS
SIFS
UPLINK VOICE
PACKET + POLL
ACK
MT i
302, 303
SENSING CHANNEL
BACKOFF WINDOW
MT i WAKES UP
MT i SLEEPS

FIG. 4

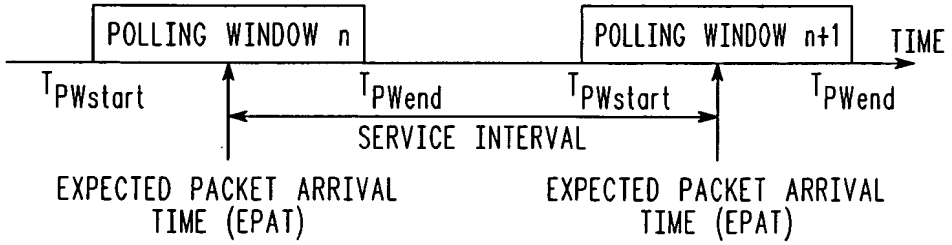
POLLING WINDOW n
POLLING WINDOW n+1
TIME
$T_{PWstart}$
T_{PWend}
$T_{PWstart}$
T_{PWend}
SERVICE INTERVAL
EXPECTED PACKET ARRIVAL
TIME (EPAT)
EXPECTED PACKET ARRIVAL
TIME (EPAT)

FIG. 5

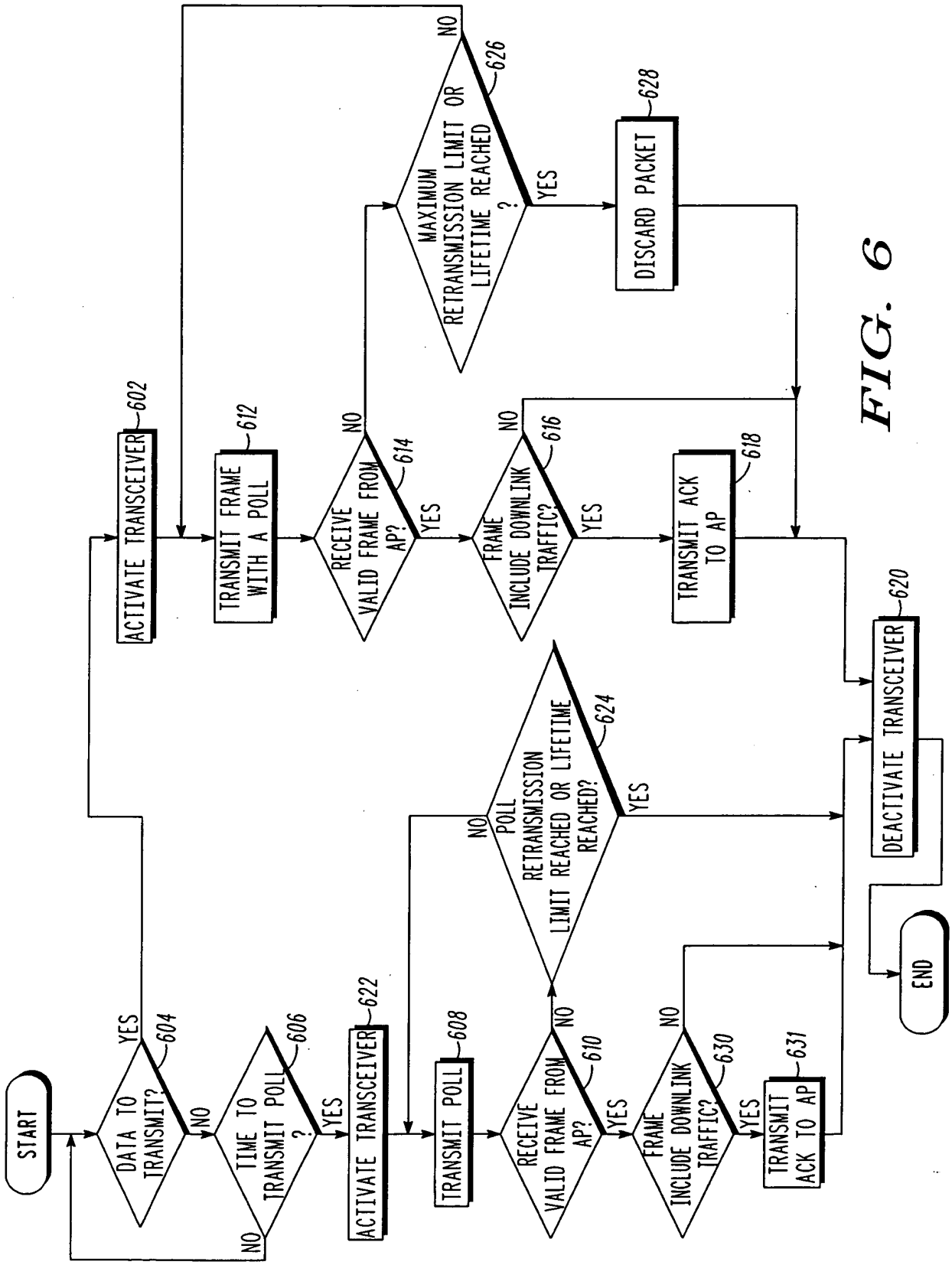
START
DATA TO TRANSMIT?
604
YES
NO
TIME TO TRANSMIT POLL ?
606
YES
NO
ACTIVATE TRANSCEIVER
602
TRANSMIT FRAME WITH A POLL
612
RECEIVE VALID FRAME FROM AP?
614
NO
YES
FRAME INCLUDE DOWNLINK TRAFFIC?
616
NO
YES
TRANSMIT ACK TO AP
618
MAXIMUM RETRANSMISSION LIMIT OR LIFETIME REACHED ?
626
NO
YES
DISCARD PACKET
628
ACTIVATE TRANSCEIVER
622
TRANSMIT POLL
608
RECEIVE VALID FRAME FROM AP?
610
NO
YES
FRAME INCLUDE DOWNLINK TRAFFIC?
630
NO
YES
TRANSMIT ACK TO AP
631
POLL RETRANSMISSION LIMIT REACHED OR LIFETIME REACHED?
624
NO
YES
DEACTIVATE TRANSCEIVER
620
END

FIG. 6

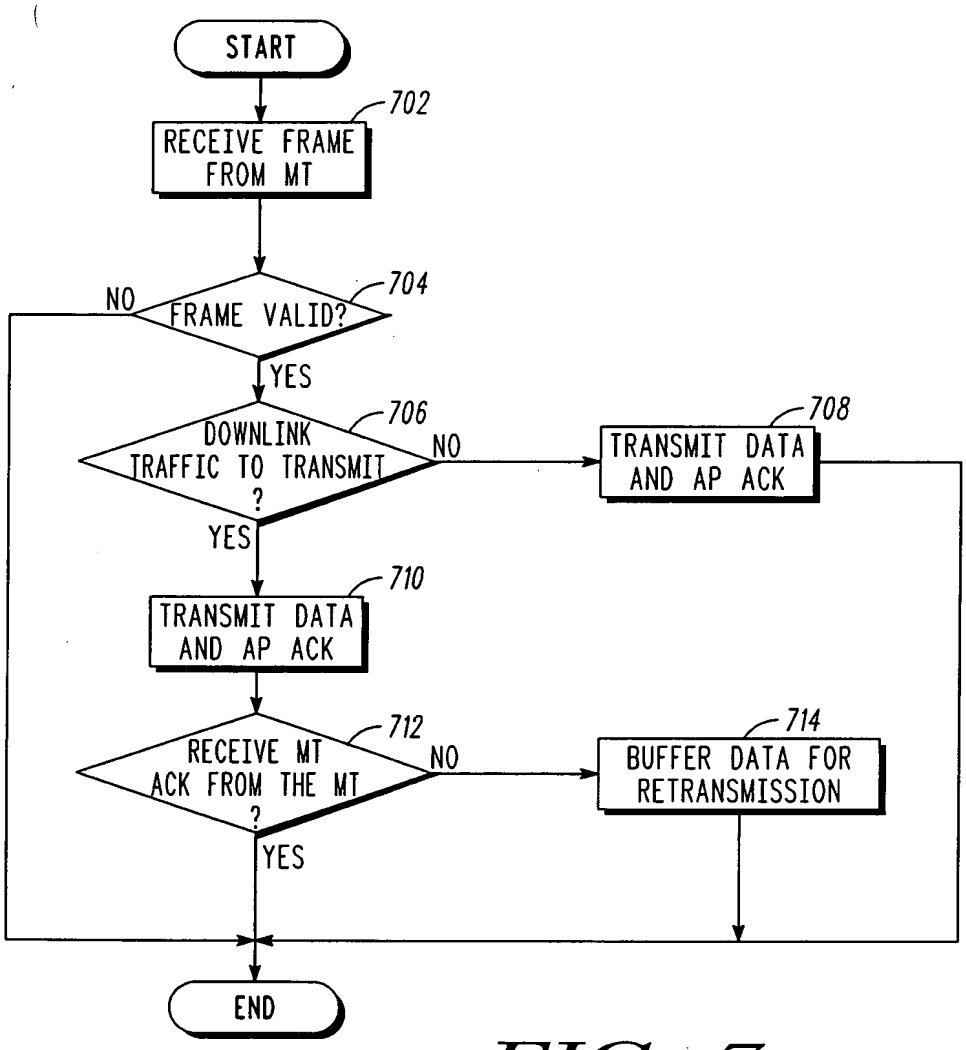
START
RECEIVE FRAME FROM MT
702
FRAME VALID?
704
NO
YES
DOWNLINK TRAFFIC TO TRANSMIT ?
706
NO
YES
TRANSMIT DATA AND AP ACK
708
TRANSMIT DATA AND AP ACK
710
RECEIVE MT ACK FROM THE MT ?
712
NO
YES
BUFFER DATA FOR RETRANSMISSION
714
END

FIG. 7

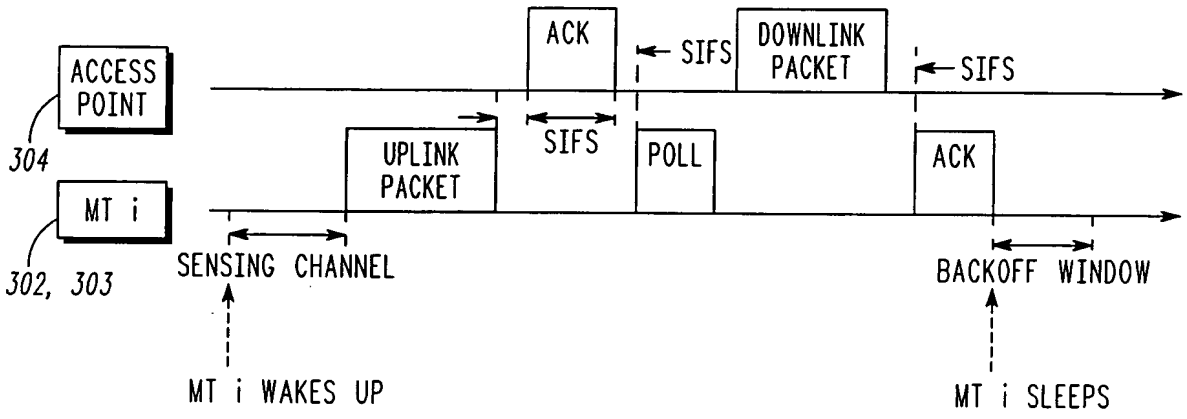
ACCESS POINT
304
MT i
302, 303
ACK
SIFS
DOWNLINK PACKET
SIFS
UPLINK PACKET
SIFS
POLL
ACK
SENSING CHANNEL
BACKOFF WINDOW
MT i WAKES UP
MT i SLEEPS

FIG. 8

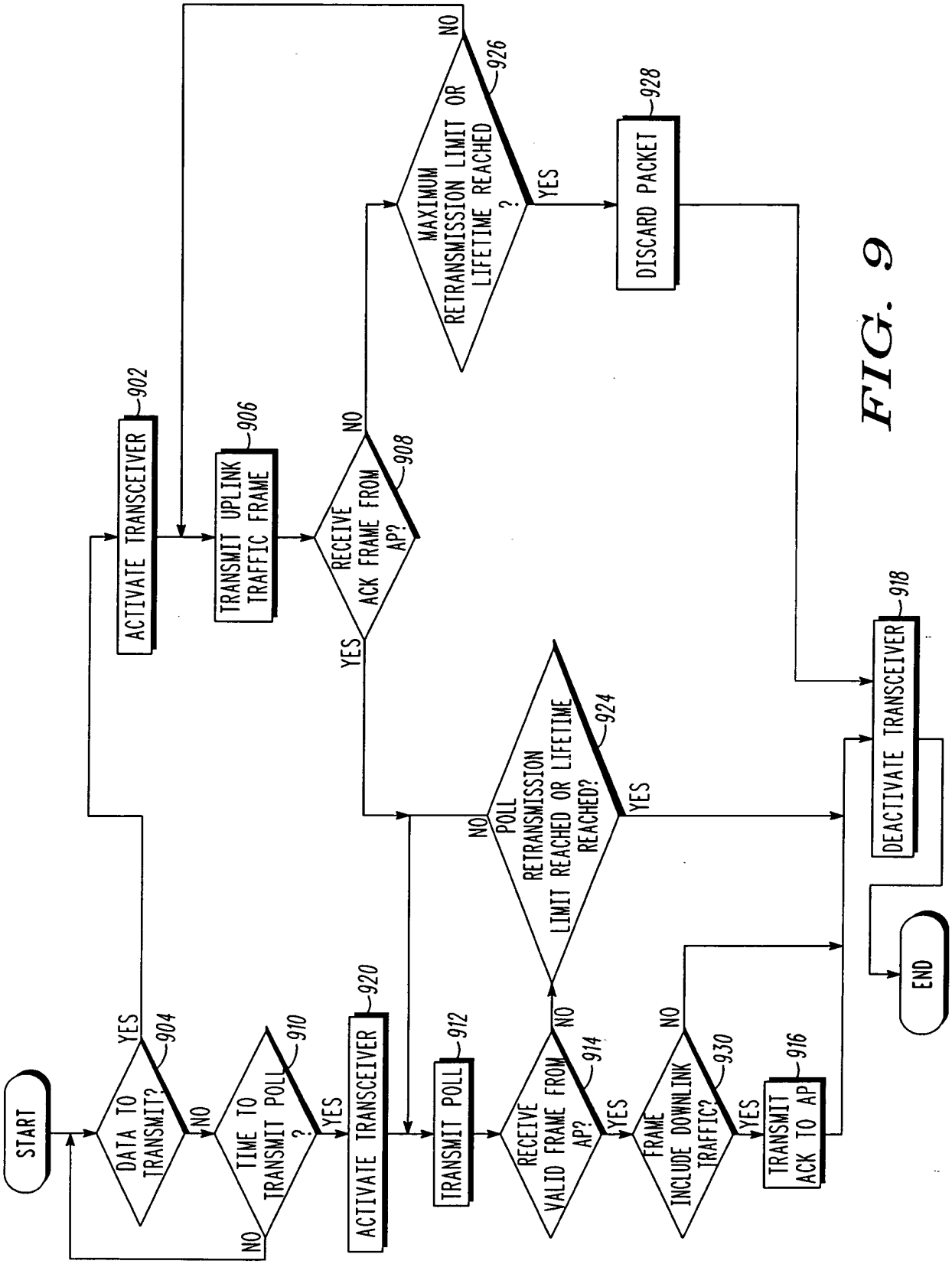
START
DATA TO TRANSMIT?
904
YES
NO
TIME TO TRANSMIT POLL ?
910
YES
NO
ACTIVATE TRANSCEIVER
902
TRANSMIT UPLINK TRAFFIC FRAME
906
RECEIVE ACK FRAME FROM AP?
908
NO
YES
MAXIMUM RETRANSMISSION LIMIT OR LIFETIME REACHED ?
926
NO
YES
DISCARD PACKET
928
ACTIVATE TRANSCEIVER
920
TRANSMIT POLL
912
RECEIVE VALID FRAME FROM AP?
914
NO
YES
POLL RETRANSMISSION LIMIT REACHED OR LIFETIME REACHED?
924
NO
YES
FRAME INCLUDE DOWNLINK TRAFFIC?
930
NO
YES
TRANSMIT ACK TO AP
916
DEACTIVATE TRANSCEIVER
918
END

FIG. 9

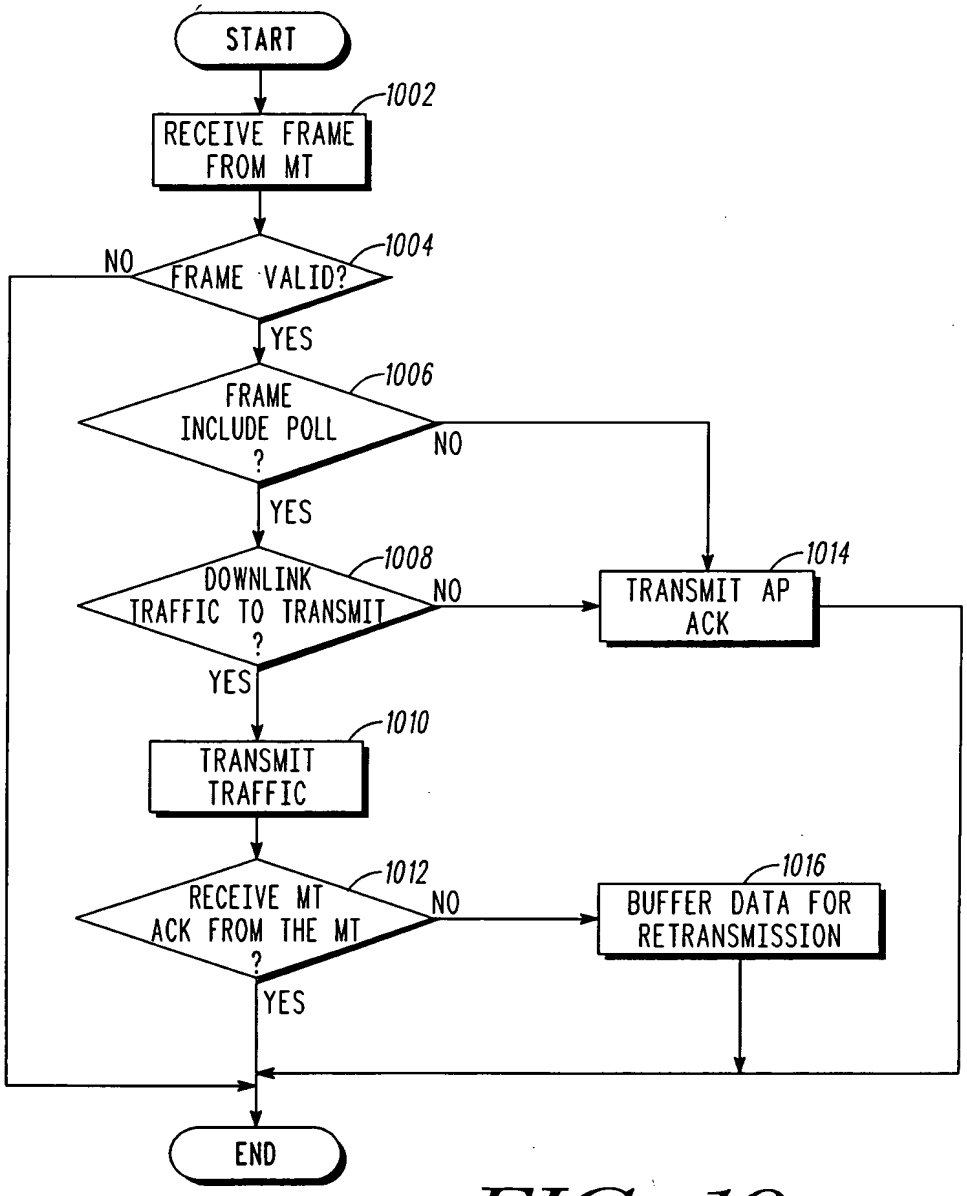
START
1002
RECEIVE FRAME FROM MT
1004
NO
FRAME VALID?
YES
1006
FRAME INCLUDE POLL ?
NO
YES
1008
DOWNLINK TRAFFIC TO TRANSMIT ?
NO
YES
1014
TRANSMIT AP ACK
1010
TRANSMIT TRAFFIC
1012
RECEIVE MT ACK FROM THE MT ?
NO
YES
1016
BUFFER DATA FOR RETRANSMISSION
END

FIG. 10